

REMARKS

The specification has been amended to correct clerical errors in page 14 and Table 3. Claim 1 has been amended by incorporating with Claim 2 and further specifying the resins in a conductive substrate layer and low resistance layer. Claim 2 has been canceled. New Claims 24-27 have been added.

Support for the amendments to the specification can be found at page 12, line 13 in the specification and Table 1, for example. Support for the amendments to Claim 1 is present in Claim 2, as originally filed and in the specification, from page 8 to page 10. Support for the new claims also can be found in the specification, from page 8 to page 10. Thus, no new matter has been added. Applicant respectfully requests entry of the amendments and reconsideration of the present application in view of the amendments and following remarks.

Specification

The specification has been amended to correct clerical errors in Page 14, line 17-18 and Table-3, where “cm” has been missed after “Ω”. Since “Ωcm” has been used in the rest of the specification, this is not an introduction of new matter. Applicant respectfully request entry of the amendment.

Claim Rejections – 35 USC §103

Claims 1-4 and 6-8 have been rejected under 35 USC 103 (a) as being unpatentable over Wani (5,682,288) in view of Maxfield et al (4,915,985).

The Examiner combines an electric double layer capacitor of Wani and a current collector substrate of Maxfield, asserting that the current collector substrate containing finely divided metal filler coated with a polymer, as specified in Claim 1. However, Maxfield teaches that a current collector substrate consisting metal grid such as a steel, stainless steel or nickel grid, when the polymer coated substrate is intend for use as a current collector in a battery. (column 3, line 1-4). Although the Maxfield does teach the use of “finely divided metal filter coated with a polymer”, it is when the polymer coated substrate is intended for use as a precursor material in the manufacture of electrodes for secondary batteries. (column 3, line 5-8). The metal grid is not

modifiable to the conductive agent such as metal fiber or powder that listed in Claim 1. Thus, even if combined, the reference would not meet the claims.

Further, Maxfield solely discloses a process for forming a conjugated backbone polymer or a polymer which can be converted into a conjugated polymer on a substrate (column 2, line 3-8), and that the surface of the substrate has catalytic activity for polymerization. (column 2, line 11) Maxfield never teaches use of polymers other than conjugated backbone polymers. The amended Claim 1 specifies resins which do not have conjugated backbone.

Moreover, Wani teaches a two layer structure having a metal layer and resin layer including conductive agents, and Maxfield teaches a single layer structure including a finely divided filler coated with polymer. The cited references do not suggest a two layer structure wherein both layers include thermoplastic resin, and are silent about a volume resistance in a thickness direction, which leads to significant reduction of the contact resistance and overall mixing percentage of the conductive agent in the film as a whole. (page 11, line 23 – page 12, line 4)

Thus, the claims define a novel structure that produces new and unexpected result as described above. Therefore the Claim 1, as well as the dependent Claims can not be rejected on this ground. Applicant respectfully requests withdrawal of the rejection.

Claim Rejections – 35 USC §103

Claims 1-4 and 6-8 have been rejected under 35 USC 103(a) as being unpatentable over Takenaka et al, (3,830,656) in view of Tsukakoshi et al (6,294,257).

The Examiner combines Takenaka and Tsukakoshi to equate with the present invention. Takenaka teaches a resistor film made of cellulose acetate resin or polyurethane resin, which are thermosetting resins. Further, Takenaka teaches advantage of using cellulose acetate resin and polyurethane resin, and discourages use of other material, stating “Resins other than the cellulose acetate resin and the polyurethane resin described are inadequate as the resins used in the coating film. For instance, polyvinyl chloride and polypropylene are inferior in thermal resistance and polyethylene terephthalate and polypropylene are inferior in solubility.” (column 3, line 43-48). This indicates that the Takenaka teaches directly away from the present invention, which requires the use of different resins. Moreover, Tsukakoshi discloses use of thermoplastic elastomer

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instead of thermosetting resin. Thus, the cited references are not logical to combine. Therefore the Claim 1, as well as the dependent Claims can not be rejected on this ground. Applicant respectfully requests withdrawal of the rejection.

CONCLUSION

In the light of the applicant's amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner has any remaining concerns which might prevent the prompt allowance. Should the Examiner has any remaining concerns which might prevent allowance of the application, the Examiner is respectfully invited to contact the undersign at the telephone number appearing below.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

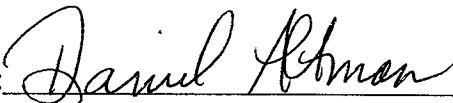
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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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